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10/658,531	09/10/2003	John Roger Weber	8350.3104	1879

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FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER  
LLP  
901 NEW YORK AVENUE, NW  
WASHINGTON, DC 20001-4413

EXAMINER

TRIEU, THAI BA

ART UNIT PAPER NUMBER

3748

DATE MAILED: 06/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/658,531

Applicant(s)

WEBER, JOHN ROGER

Examiner

Thai-Ba Trieu

Art Unit

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This Office Action is in response to the Amendment filed on April 25, 2005. Claims 1, 9, 14, 18 and 20 were amended, and claim 21 was added. In view of newly discovery prior art, the indicated allowable subject matter of claim 8 has been withdrawn. The new Non-Final Rejection set forth below.

#### ***Claim Rejections - 35 USC § 112***

Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically,

- Lines 3-4, the recitation of ***“between a main body inlet,”*** renders the claim indefinite, since it is not clear that between ***a main body inlet and which element*** applicant want to claim in claim 21. Applicant is required to identify this element.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

***Claims 1-5, 9-17, and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zehnder (Patent Number 4,032,262), in view of White, Jr. (Patent Number 4,799,586).***

**Regarding claim 1-5**, Zehnder discloses a connecting duct for providing a fluid pathway between an outlet of a low pressure compressor (6) and an inlet of a high pressure compressor (3), comprising:

a main body (Read as a connecting duct 13) defining a fluid pathway adapted to direct a flow of fluid between a main body inlet (Not Numbered) coupled to the low pressure compressor (6) and a main body outlet (Not Numbered) coupled to the high pressure compressor (3).

However, Zehnder fails to disclose the structural details of the main body.

White, Jr. teaches that it is conventional in the air cleaner inlet diffuser art, to utilize a diffusing section (12) adapted to decrease a velocity of the flow of fluid (See Figure 1); and

a flow de-swirling section (18) disposed between the diffusing section and the main body outlet (16), the flow de-swirling section adapted to straighten the flow of fluid (See Figures 1-2, Column 1, lines 38-68, Column 2, lines 1-26 and 62-68, and Column 3, lines 1-24);

wherein the main body (12) has a substantially circular cross-sectional shape (See Figure 1);

wherein the diffusing section (12) has an inlet (14, 24) and an outlet (16, Not Numbered) and wherein the cross-sectional area of the diffusing section outlet (16, Not Numbered) is greater than the cross-sectional area of the diffusing section inlet (14, 24) (See Figures 1-2, Column 2, lines 1-26 and 62-68, and Column 3, lines 1-24);

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wherein the flow de-swirling section includes an arcuate portion  
(See Figures 11 and 14);

wherein the arcuate portion (angle of  $120^{\circ}$ - $155^{\circ}$ ) changes a  
direction of the flow of fluid between about  $90^{\circ}$  and  $180^{\circ}$  (See Figure 2);

It would have been obvious to one having ordinary skill in the art at that time the  
invention was made, to have utilized the structural details of the main body, as taught by  
white, to improve the efficiency of the Zehnder turbocharger system.

**Regarding claims 9-17 and 20-21**, Zehnder discloses a method and a system  
for compressing a fluid, comprising:

a first compressor/first compressing means (6) having an inlet (Not  
Numbered) and an outlet (Not Numbered) (See Figures 1-3);

a second compressor/second compressing means (3) having an inlet (Not  
Numbered) and an outlet (Not Numbered) (See Figures 1-3);

a duct (13) having a main body adapted to direct a flow of fluid between  
the outlet of the first compressor and the inlet of the second compressor (See  
Figures 1-3);

a first turbine (5) adapted to drive the first compressor (6); and

a second turbine (2) adapted to drive the second compressor (3) (See  
Figures 1-3).

However, Zehnder fails to disclose the structural details of the main body.

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White, Jr. teaches that it is conventional in the air cleaner inlet diffuser art, to utilize a diffusing section (12) adapted to decrease a velocity of the flow of fluid; wherein the diffusing section (12) has an inlet (14, 24) and an outlet (16, Not Numbered) and wherein the cross-sectional area of the diffusing section outlet (16, Not Numbered) is greater than the cross-sectional area of the diffusing section inlet (14, 24) (See Figures 1-2, Column 2, lines 1-26 and 62-68, and Column 3, lines 1-24); and

a flow de-swirling section (18) disposed between the diffusing section and the main body outlet (16), the flow de-swirling section adapted to straighten the flow of fluid (See Figures 1-2, Column 1, lines 38-68, Column 2, lines 1-26 and 62-68, and Column 3, lines 1-24);

wherein the flow de-swirling section includes the arcuate portion (angle of  $120^{\circ}$ - $155^{\circ}$ ) changes a direction of the flow of fluid between about  $90^{\circ}$  and  $180^{\circ}$  (See Figure 2);

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the structural details of the main body, as taught by White, to improve the efficiency of the Zehnder turbocharger system.

***Claims 6-7 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zehnder (Patent Number 4,032,262), in view of White, Jr. (Patent Number 4,799,586), and further in view of Moody (Patent Number 2,060,101).***

The modified Zehnder device discloses the invention as recited above; however, fails to disclose a turning vane disposed in the de-swirling section.

Moody teaches that it is conventional in the hydraulic power apparatus art, to utilize a turning vane (16, 20) disposed in the de-swirling section (elbow section of the draft tube 8) and adapted to reduce the magnitude of turbulence in the flow of fluid (See Figures 11 and 14, Page 3, Column 1, lines 70-75, and Column 2, lines 1-4);

wherein a leading edge of the turning vane is disposed to engage the flow of fluid after the flow of fluid has passed through a predetermined distance in the arcuate portion (See Figures 11 and 14).

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized a turning vane disposed in the de-swirling section, as taught by Moody, to improve the efficiency of the modified Zehnder turbocharger system, since the use thereof would have increased the smooth lines of the flow before entering the compressor.

***Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zehnder (Patent Number 4,032,262), in view of White, Jr. (Patent Number 4,799,586), and further in view of Glista et al. (Patent Number 6,499,770 B1).***

The modified Zehnder device discloses the invention as recited above; however, fails to disclose a flexible section adapted for connection to the outlet of the low-pressure compressor.

Glista teaches that it is conventional in the flexible duct art, to utilize to disclose a flexible section (46) adapted for connection to the outlet (44) of the compressor (See Figures 1-2, Abstract, Column 3, lines 49-63).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized to disclose a flexible section adapted for connection to the outlet of the compressor, as taught by Glista, to improve the efficiency of the modified Zehnder device, since the use thereof would have maintained the air tight conduit for the compressed air flow from the low pressure compressor to the high pressure compressor.

### ***Response to Arguments***

Applicant's arguments with respect to claim1-21 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Froeliger (US Patent Number 4,196,593) disclose a supercharged internal combustion engine having a low-pressure compressor and a high-pressure compressor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (571) 272-4867. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB  
June 17, 2005



Thai-Ba Trieu  
Primary Examiner  
Art Unit 3748